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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,586	04/20/2006	Toshiaki Mori	2006_0507A	7273

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WENDEROTH, LIND & PONACK L.L.P.  
1030 15th Street, N.W.  
Suite 400 East  
Washington, DC 20005-1503

EXAMINER
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CHOKSHI, PINKAL R

ART UNIT	PAPER NUMBER
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2425

NOTIFICATION DATE	DELIVERY MODE
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01/21/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com  
coa@wenderoth.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,586	<b>Applicant(s)</b> MORI ET AL.	
	<b>Examiner</b> Pinkal R. Chokshi	<b>Art Unit</b> 2425	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/28/2010 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1 and 7-9 have been considered but are moot in view of the new ground(s) of rejection. See the new rejection below.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 5, 6, 8, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over US PG Pub 2002/0183026 to Naruse (hereafter referenced as Naruse) in view of US PG Pub 2003/022966 to Markman (hereafter referenced as

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Markman), US PG Pub 2008/0183767 to Zhu (hereafter referenced as Zhu) and US PG Pub 2004/0045027 to Takamura (hereafter referenced as Takamura).

Regarding **claim 1**, “a content reproduction device that performs streaming reproduction of a content” reads on the communication quality of data between the transmission system and the receiver (abstract) disclosed by Naruse and represented in Fig. 1.

As to “the device comprising: a content reconstruction unit having a buffer in which the pieces of segmented data received by said plurality of communication units is temporarily accumulated, and configured to reconstruct the pieces of segmented data accumulated in the buffer into the content” Naruse discloses (¶0035, ¶0038 and ¶0111) that the mobile terminal includes data storage unit that stores data, such as audio, video, text, received in receiving unit and transmit the content to decoder unit as represented in Fig. 2 (element 17).

As to “a reproduction unit configured to extract the content from the buffer at a predetermined bit rate and to reproduce the content at the predetermined bit rate, the content having been reconstructed by said content reconstruction unit” Naruse discloses (¶0038) that the decoder (reproduction unit) decodes and produce the data received and stored in the storage device to the output device as represented in Fig. 2 (element 18). Naruse further discloses (¶0038 and ¶0043) that the decoder decodes contents based on the predetermined bit rate information received from the control unit.

As to “a communication control unit configured to: calculate, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with said plurality of communication units, based on free space in the buffer and the bit rate” Naruse discloses (¶0050) that the receiving control unit in mobile terminal calculates the transmission speed in order to control the bit rate as represented in Fig. 4. Naruse further discloses (¶0037) that the receiving control unit monitors the data storage volume to be stored in the data storage unit.

As to “transmit a first request signal indicating the calculated target transmission speeds corresponding to said plurality of communication units to the content transmission device via one of said communication units” Naruse discloses (¶0052-¶0054) that the mobile terminal requests the corrected transmission speed to the transmission control unit where transmission system transmit data matching to corrected transmission speed as represented in Fig. 4.

As to “wherein the content transmission device transmits the pieces of segmented data of the content to be received by said plurality of communication units at a transmission speed adjusted based on the first request signal, and said plurality of communication units receive the pieces of segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal” Naruse discloses (¶0052-¶0055) that the transmission system transmits

data corresponding to corrected transmission speed based on the request received from the mobile wireless terminal as represented in Fig. 4.

Naruse meets all the limitations of the claim except “a plurality of communication units configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path, a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units and a reconstruction unit, where a buffer temporarily stores this segmented data, reconstructs segmented data into the content.” However, Markman discloses (§0025, §0041, §0048) that the Media Center, located at user's site, receives media signals (audio/video signal of a program content) using tuner and programming information using modem from head-end and stores this data in memory as represented in Fig. 4 (elements 202, 203, 210). Markman further discloses (§0085, §0110) that the PVR module in Media Center receives both Meta data (programming information) and media signal of the same media program, where PVR module controls a presentation of the media program using meta-data as represented in Fig. 9 (elements 406, 202, 216). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse's system by using multiple communication units to receive segmented content data as taught by Markman

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so the media program does not consume excessive bandwidth and the viewer can view his/her favorite program without missing any data (¶0009).

Combination of Naruse and Markman meets all the limitations of the claim except “wherein the pieces of segmented data each includes a counter indicating an order of the segmentation performed by said content transmission device, and said content reconstruction unit is configured to reconstruct the content by extracting the pieces of segmented data accumulated in the buffer in the order of values indicated by said respective counters.” However, Zhu discloses (¶0021, ¶0022, ¶0041) that the stream transmitted from the data source to the device includes segment IDs, which is a sequential number, where the device uses the sequence/segment IDs stored in the buffer for reconstructing the data stream. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse and Markman’s systems by including a counter value in the segment of stream data as taught by Zhu in order to efficiently reconstruct the data stream using segment IDs (¶0041).

Combination of Naruse, Markman and Zhu meets all the limitations of the claim except “transmission speeds to associate with communication unit.” However, Takamura discloses (¶0038, ¶0041, ¶0087) that the receiving device receives data using two different communication units, where the data received in the portable device corresponds with the transfer rate of communication unit as represented in Fig. 1. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman

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and Zhu's inventions by receiving data at a transmission speed corresponding with communication unit as taught by Takamura so communication can be carried out at a lower price and at a higher speed in the wireless LAN communication unit in comparison with the cellular phone network communication unit (§0007).

Regarding **claim 5**, "the content reproduction device further comprising: a reception state storage unit which stores, in advance, data reception speeds of said plurality of communication units at each position on the traveling route" Naruse discloses (§0097-§0099) that the storage unit in mobile wireless terminal stores content data in case the data transmission speed decreases on the traveling path.

As to "wherein said communication control unit is configured to determine the target transmission speeds of said plurality of communication units based on free space in the buffer and the data reception speeds of said plurality of communication units at a position indicated by information on a planned transit position after the present position, the data reception speeds being stored in said reception state storage unit" Naruse discloses (§0050) that the receiving control unit in mobile terminal determines the transmission speed in order to control the bit rate as represented in Fig. 4. Naruse further discloses (§0037) that the receiving control unit monitors the data storage volume to be stored in the data storage unit. Naruse also discloses (§0097-§0099) that the storage unit in mobile



wireless terminal stores content data in case the data transmission speed decreases on the traveling path

Combination of Naruse, Markman and Zhu meets all the limitations of the claim except “a present position detection unit configured to detect a present position and a traveling route obtainment unit configured to obtain a traveling route starting from the present position detected by said present position detection unit.” However, Takamura discloses (¶0069) that the portable terminal includes GPS device that detects the moving speed of the vehicle. However, the examiner takes official notice that it was well known in the art at the time of the invention to use GPS device to detect the present position and to obtain a traveling route. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to use GPS device to detect the present position and to obtain a traveling route to Naruse, Markman, and Zhu’s systems would have yielded predictable result of distributing program information data to portable terminal that is within the matching communication areas.

Regarding **claim 6**, “the content reproduction device further comprising: a reception speed measurement unit configured to measure data reception speeds of said plurality of communication units” Naruse discloses (¶0060) that the unit determines reception/transmission speed received in mobile terminal as represented in Fig. 5 (element SP14).

As to “wherein said communication control unit is configured to: calculate modified target transmission speeds, each being calculated based on a difference between the target transmission speed assigned for the content reception of each of said communication units and each of the data reception speeds measured by said reception speed measurement unit and transmit a second request signal indicating the calculated target transmission speeds to the content transmission device via one of said communication units” Naruse discloses (§§0048-§§0055) that the transmission system transmits pilot signal to mobile terminal where mobile terminal determines transmission speed and based on the reception speed received in mobile terminal, it transmits request of corrected transmission speed to transmission system. Transmission system receives the request of corrected transmission speed and transmits data using modulation system corresponding to corrected transmission speed and mobile terminal receives data at corrected transmission speed as represented in Fig. 4 (elements SP1-SP9).

Regarding **claim 8**, “a content reproduction method for performing streaming reproduction of a content” reads on the communication quality of data between the transmission system and the receiver (abstract) disclosed by Naruse and represented in Fig. 1.

As to “the method comprising: a content reconstruction step of temporarily accumulating, in a buffer, the pieces of segmented data received in the plurality

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of communication steps, and reconstructing the pieces of segmented data accumulated in the buffer into the content” Naruse discloses (§§0035, §§0038 and §§0111) that the mobile terminal includes data storage unit that stores data, such as audio, video, text, received in receiving unit and transmit the content to decoder unit as represented in Fig. 2 (element 17).

As to “a reproduction step of extracting the content from the buffer at a predetermined bit rate and reproducing the content at the predetermined bit rate, the content having been reconstructed in the content reconstruction step” Naruse discloses (§§0038) that the decoder (reproduction unit) decodes and produce the data received and stored in the storage device to the output device as represented in Fig. 2 (element 18). Naruse further discloses (§§0038 and §§0043) that the decoder decodes contents based on the predetermined bit rate information received from the control unit.

As to “a communication control step of: calculating, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with the plurality of communication steps, based on free space in the buffer and the bit rate” Naruse discloses (§§0050) that the receiving control unit in mobile terminal calculates the transmission speed in order to control the bit rate as represented in Fig. 4. Naruse further discloses (§§0037) that the receiving control unit monitors the data storage volume to be stored in the data storage unit.

As to “transmitting a first request signal indicating the calculated target transmission speeds corresponding to the plurality of communication units to the content transmission device using one of the plurality of communication steps” Naruse discloses (§§0052-§0054) that the mobile terminal requests the corrected transmission speed to the transmission control unit where transmission system transmit data matching to corrected transmission speed as represented in Fig. 4.

As to “wherein the content transmission device transmits the pieces of segmented data of the content to be received by said plurality of communication units at a transmission speed adjusted based on the first request signal, and said plurality of communication units receive the pieces of segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal” Naruse discloses (§§0052-§0055) that the transmission system transmits data corresponding to corrected transmission speed based on the request received from the mobile wireless terminal as represented in Fig. 4.

Naruse meets all the limitations of the claim except “a plurality of communication steps each receives segmented data of a content transmitted from a content transmission device over a communication path are received by a plurality of communication units, a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units and a reconstruction step,

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where a buffer temporarily accumulates this segmented data, reconstructs segmented data into the content.” However, Markman discloses (§§0025, §§0041, §§0048) that the Media Center, located at user’s site, receives media signals (audio/video signal of a program content) using tuner and programming information using modem from head–end and stores this data in memory as represented in Fig. 4 (elements 202, 203, 210). Markman further discloses (§§0085, §§0110) that the PVR module in Media Center receives both Meta data (programming information) and media signal of the same media program, where PVR module controls a presentation of the media program using meta-data as represented in Fig. 9 (elements 406, 202, 216). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse system by using multiple communication units to receive segmented content data as taught by Markman so the media program does not consume excessive bandwidth and the viewer can view his/her favorite program without missing any data (§§0009).

Combination of Naruse and Markman meets all the limitations of the claim except “wherein the pieces of segmented data each includes a counter indicating an order of the segmentation performed by said content transmission device and said content reconstruction unit is configured to reconstruct the content by extracting the pieces of segmented data accumulated in the buffer in the order of values indicated by said respective counters.” However, Zhu discloses (§§0021, §§0022, §§0041) that the stream transmitted from the data source to the device

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includes segment IDs, which is a sequential number, where the device uses the sequence/segment IDs stored in the buffer for reconstructing the data stream. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse and Markman's systems by including a counter value in the segment of stream data as taught by Zhu in order to efficiently reconstruct the data stream using segment IDs (¶0041).

Combination of Naruse, Markman and Zhu meets all the limitations of the claim except "transmission speeds to associate with communication unit." However, Takamura discloses (¶0038, ¶0041, ¶0087) that the receiving device receives data using two different communication units, where the data received in the portable device corresponds with the transfer rate of communication unit as represented in Fig. 1. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman and Zhu's inventions by receiving data at a transmission speed corresponding with communication unit as taught by Takamura so communication can be carried out at a lower price and at a higher speed in the wireless LAN communication unit in comparison with the cellular phone network communication unit (¶0007).

Regarding **claim 10**, "a program stored on a non-transitory computer-readable recording medium for a content reproduction device that performs streaming reproduction of a content, the program causing a computer to execute

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the steps included in the content reproduction method according to claim 8”

Markman discloses (¶0118 and claim 52) that the machine readable medium storing the computer program for the above mentioned invention. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify Naruse’s system by storing computer readable program on recorded medium as taught by Markman in order to easily install computer program on the other computer devices.

5. **Claims 2-4, 7, 9, and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Markman, Zhu, and Takamura, and further in view of US PG Pub 2005/0043999 to Ji (hereafter referenced as Ji).

Regarding **claim 2**, combination of Naruse, Markman, Zhu, and Takamura meets all the limitations of the claim except “the content reproduction device wherein the first request signal indicates addresses for said plurality of communication units.” However, Ji discloses (¶0033) that physical address of communication interface is used to submit a request. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, Zhu, and Takamura’s inventions by indicating addresses for communication units as taught by Ji in order to deliver wide range of entertainment and data services to users using correct transmission speed.

Regarding **claim 3**, “the content reproduction device wherein the first request signal is a content obtainment command indicating addresses for said plurality of communication units” Naruse discloses (§0052 and §0053) that the mobile terminal requests the corrected transmission speed to the transmission control unit. Combination of Naruse, Markman, Zhu, and Takamura does not explicitly teach that the request signal includes the address for communication unit. However, Ji discloses (§0033) that physical address of communication interface is used to submit a request. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, Zhu, and Takamura’s inventions by indicating addresses for communication units as taught by Ji in order to deliver wide range of entertainment and data services to users using correct transmission speed.

Regarding **claim 4**, combination of Naruse, Markman, Zhu, and Takamura meets all the limitations of the claim except “the content reproduction device further comprising: a communication fee storage unit which stores, in advance, communication fees of said plurality of communication units, wherein said communication control unit is configured to determine the target transmission speeds of said plurality of communication units based on the communication fees.” However, Ji discloses (§0003, §0022, §0041) that the wireless access to networks is provided on a pay-per use basis, where the funds are deposited in



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advance. Ji further discloses (§0043) that the deposited fund becomes a token for a connection usage allocation, which is determined by the rate of connection. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, Zhu, and Takamura's inventions by previously paying for usage data as taught by Ji in order to provide service to any customer and not just the regular subscribed customer (§0028).

Regarding **claim 7**, “a content transmission device that transmits a content over a communication path” reads on the communication quality of data between the transmission system and the receiver (abstract) disclosed by Naruse and represented in Fig. 1.

As to “the device comprising: a content accumulation unit configured to accumulate a content” Naruse discloses (§0032) that the data storage unit stores content data as represented in Fig. 2 (element 12).

As to “a communication unit configured to communicate, over the communication path, with a content reproduction device that includes a plurality of communication units with different addresses” Naruse discloses (§0034) that the data output unit and transmission control unit communicates with mobile terminal over communication path as represented in Fig. 2 (elements 13, 14, 15, 16, 20).

As to “a content segmentation unit configured to: determine amounts of content data to be transmitted based on target transmission speeds of the

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respective addresses every time a first request signal indicating target transmission speeds of the respective addresses is received, the amounts of content data to be transmitted being determined for the respective addresses” Naruse discloses (§0050) that the receiving control unit in mobile terminal calculates the transmission speed in order to control the bit rate as represented in Fig. 4. Naruse further discloses (§0037) that the receiving control unit monitors the data storage volume to be stored in the data storage unit. Naruse further discloses (§0052 and §0053) that the mobile terminal requests the corrected transmission speed to the transmission control unit as represented in Fig. 4.

As to “segment the content accumulated in said content accumulation unit into pieces of segmented data and transmit the pieces of segmented data of the content addressed to the addresses via said communication unit” Naruse discloses (§0034) that the transmission system transmits packetized data of audio, video, data to mobile terminal as represented in Fig. 2.

As to “wherein said content segmentation unit transmits the pieces of segmented data of the content to be received by the plurality of communication units at a transmission speed adjusted based on the first request signal, and the plurality of communication units receive the pieces of segmented data of the content transmitted from said content segmentation unit at the transmission speed adjusted by said content segmentation unit based on the first request signal” Naruse discloses (§0052-§0055) that the transmission system transmits

data corresponding to corrected transmission speed based on the request received from the mobile wireless terminal as represented in Fig. 4.

Naruse meets all the limitations of the claim except “a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units, wherein the plurality of communication units receive a part of the pieces of the segmented data of the content obtained by segmenting data of a single content.” However, Markman discloses (§§0025, §§0041, §§0048) that the Media Center, located at user’s site, receives media signals (audio/video signal of a program content) using tuner and programming information using modem from head–end and stores this data in memory as represented in Fig. 4 (elements 202, 203, 210). Markman further discloses (§§0085, §§0110) that the PVR module in Media Center receives both Meta data (programming information) and media signal of the same media program, where PVR module controls a presentation of the media program using meta-data as represented in Fig. 9 (elements 406, 202, 216). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse system by using multiple communication units to receive segmented content data as taught by Markman so the media program does not consume excessive bandwidth and the viewer can view his/her favorite program without missing any data (§§0009).

Combination of Naruse and Markman meets all the limitations of the claim except “the pieces of segmented data each includes a counter indicating an order of the segmentation performed and the plurality of communication units reconstruct the segmented data based on the order indicated by the counter.” However, Zhu discloses (¶0021, ¶0022, ¶0041) that the stream transmitted from the data source to the device includes segment IDs, which is a sequential number, where the device uses the sequence/segment IDs stored in the buffer for reconstructing the data stream. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse and Markman’s systems by including a counter value in the segment of stream data as taught by Zhu in order to efficiently reconstruct the data stream using segment IDs (¶0041).

Combination of Naruse, Markman and Zhu meets all the limitations of the claim except “content data is transmitted based on transmission speeds of addresses/communication units.” However, Takamura discloses (¶0038, ¶0041, ¶0087) that the receiving device receives data using two different communication units, where the data received in the portable device corresponds with the transfer rate of communication unit as represented in Fig. 1. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman and Zhu’s inventions by receiving data at a transmission speed corresponding with communication unit as taught by Takamura so communication can be carried out at a lower price and at a higher

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speed in the wireless LAN communication unit in comparison with the cellular phone network communication unit (§0007).

Combination of Naruse, Markman, Zhu and Takamura meets all the limitations of the claim except “content transmitted to communication units with addresses”. However, Ji discloses (§0033) that physical address of communication interface is used to submit a request, where this address is used by the system to provide data. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, Zhu, and Takamura's inventions by indicating addresses for communication units as taught by Ji in order to deliver wide range of entertainment and data services to users using correct transmission speed.

Regarding **claim 9**, “a content transmission method for transmitting a content over a communication path” reads on the communication quality of data between the transmission system and the receiver (abstract) disclosed by Naruse and represented in Fig. 1.

As to “the method comprising: a communication step of communicating, over the communication path, with a content reproduction device that includes a plurality of communication units with different addresses” Naruse discloses (§0034) that the data output unit and transmission control unit communicates with mobile terminal over communication path as represented in Fig. 2 (elements 13, 14, 15, 16, 20).

As to “a content segmentation step of: determining amounts of content data to be transmitted based on target transmission speeds of the respective addresses every time a first request signal indicating target transmission speeds of the respective addresses is received, the amounts of content data to be transmitted being determined for the respective addresses” Naruse discloses (¶0050) that the receiving control unit in mobile terminal calculates the transmission speed in order to control the bit rate as represented in Fig. 4. Naruse further discloses (¶0037) that the receiving control unit monitors the data storage volume to be stored in the data storage unit. Naruse further discloses (¶0052 and ¶0053) that the mobile terminal requests the corrected transmission speed to the transmission control unit as represented in Fig. 4.

As to “segmenting the content accumulated in a content accumulation unit into pieces of segmented data and transmitting the pieces of segmented data of the content addressed to the addresses using said communication step” Naruse discloses (¶0034) that the transmission system transmits packetized data of audio, video, data to mobile terminal as represented in Fig. 2.

As to “wherein the content segmentations step transmits the pieces of segmented data of the content to be received by the plurality of communication units at a transmission speed adjusted based on the first request signal, and the plurality of communication units receive the pieces of segmented data of the content transmitted during the content segmentation step at the transmission speed adjusted by said content segmentation unit based on the first request

signal” Naruse discloses (§§0052-§0055) that the transmission system transmits data corresponding to corrected transmission speed based on the request received from the mobile wireless terminal as represented in Fig. 4.

Naruse meets all the limitations of the claim except “a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units; wherein the plurality of communication units receive a part of the pieces of the segmented data of the content obtained by segmenting data of a single content.” However, Markman discloses (§§0025, §0041, §0048) that the Media Center, located at user’s site, receives media signals (audio/video signal of a program content) using tuner and programming information using modem from head–end and stores this data in memory as represented in Fig. 4 (elements 202, 203, 210). Markman further discloses (§§0085, §0110) that the PVR module in Media Center receives both Meta data (programming information) and media signal of the same media program, where PVR module controls a presentation of the media program using meta-data as represented in Fig. 9 (elements 406, 202, 216). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse’s system by using multiple communication units to receive segmented content data as taught by Markman so the media program does not consume excessive bandwidth and the viewer can view his/her favorite program without missing any data (§0009).

Combination of Naruse and Markman meets all the limitations of the claim except “each segmented data including a counter indicating an order of the segmentation performed and plurality of communication units reconstruct the segmented data based on the order indicated by the counter.” However, Zhu discloses (¶0021, ¶0022, ¶0041) that the stream transmitted from the data source to the device includes segment IDs, which is a sequential number, where the device uses the sequence/segment IDs stored in the buffer for reconstructing the data stream. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse and Markman’s systems by including a counter value in the segment of stream data as taught by Zhu in order to efficiently reconstruct the data stream using segment IDs (¶0041).

Combination of Naruse, Markman and Zhu meets all the limitations of the claim except “content data is transmitted based on transmission speeds of addresses/communication units.” However, Takamura discloses (¶0038, ¶0041, ¶0087) that the receiving device receives data using two different communication units, where the data received in the portable device corresponds with the transfer rate of communication unit as represented in Fig. 1. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman and Zhu’s inventions by receiving data at a transmission speed corresponding with communication unit as taught by Takamura so communication can be carried out at a lower price and at a higher



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speed in the wireless LAN communication unit in comparison with the cellular phone network communication unit (¶0007).

Combination of Naruse, Markman, Zhu and Takamura meets all the limitations of the claim except “content transmitted to communication units with addresses”. However, Ji discloses (¶0033) that physical address of communication interface is used to submit a request, where this address is used by the system to provide data. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, Zhu and Takamura’s inventions by indicating addresses for communication units as taught by Ji in order to deliver wide range of entertainment and data services to users using correct transmission speed.

Regarding **claim 11**, “a program stored on a non-transitory computer-readable recording medium for a content transmission device that transmits a content over a communication path, the program causing a computer to execute the steps included in the content transmission method according to claim 9.” Markman discloses (¶0118 and claim 52) that the machine readable medium storing the computer program for the above mentioned invention. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify Naruse’s system by storing computer readable program on recorded medium as taught by Markman in order to easily install computer program on the other computer devices.

6. **Claims 12 and 14-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Markman, Takamura, Ji and further in view of US PG Pub 2007/0112948 to Uhlik (hereafter referenced as Uhlik).

Regarding **claim 12**, “a content reproduction device that performs streaming reproduction of a content” reads on the communication quality of data between the transmission system and the receiver (abstract) disclosed by Naruse and represented in Fig. 1.

As to “the device comprising: a content reconstruction unit having a buffer in which the pieces of segmented data received by said plurality of communication units is temporarily accumulated, and configured to reconstruct the pieces of segmented data accumulated in the buffer into the content” Naruse discloses (¶0035, ¶0038 and ¶0111) that the mobile terminal includes data storage unit that stores data, such as audio, video, text, received in receiving unit and transmit the content to decoder unit as represented in Fig. 2 (element 17).

As to “a reproduction unit configured to extract the content from the buffer at a predetermined bit rate and to reproduce the content at the predetermined bit rate, the content having been reconstructed by said content reconstruction unit” Naruse discloses (¶0038) that the decoder (reproduction unit) decodes and produce the data received and stored in the storage device to the output device as represented in Fig. 2 (element 18). Naruse further discloses (¶0038 and

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¶0043) that the decoder decodes contents based on the predetermined bit rate information received from the control unit.

As to “a communication control unit configured to: calculate, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with said plurality of communication units, based on free space in the buffer and the bit rate” Naruse discloses (¶0050) that the receiving control unit in mobile terminal calculates the transmission speed in order to control the bit rate as represented in Fig. 4. Naruse further discloses (¶0037) that the receiving control unit monitors the data storage volume to be stored in the data storage unit.

As to “transmit a first request signal indicating the calculated target transmission speeds corresponding to said plurality of communication units to the content transmission device via one of said plurality of communication units” Naruse discloses (¶0052-¶0054) that the mobile terminal requests the corrected transmission speed to the transmission control unit where transmission system transmit data matching to corrected transmission speed as represented in Fig. 4.

As to “wherein the content transmission device transmits the pieces of segmented data of the content to be received by said plurality of communication units at a transmission speed adjusted based on the first request signal, and said plurality of communication units receive the pieces of segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request

signal” Naruse discloses (¶0052-¶0055) that the transmission system transmits data corresponding to corrected transmission speed based on the request received from the mobile wireless terminal as represented in Fig. 4.

Naruse meets all the limitations of the claim except “a plurality of communication units configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path, a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units and a reconstruction unit, where a buffer temporarily stores this segmented data, reconstructs segmented data into the content.” However, Markman discloses (¶0025, ¶0041, ¶0048) that the Media Center, located at user’s site, receives media signals (audio/video signal of a program content) using tuner and programming information using modem from head–end and stores this data in memory as represented in Fig. 4 (elements 202, 203, 210). Markman further discloses (¶0085, ¶0110) that the PVR module in Media Center receives both Meta data (programming information) and media signal of the same media program, where PVR module controls a presentation of the media program using meta-data as represented in Fig. 9 (elements 406, 202, 216). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse’s system by using multiple communication units to receive segmented content data as taught by Markman

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so the media program does not consume excessive bandwidth and the viewer can view his/her favorite program without missing any data (¶0009).

Combination of Naruse and Markman meets all the limitations of the claim except “content data is transmitted based on transmission speeds of addresses/communication units.” However, Takamura discloses (¶0038, ¶0041, ¶0087) that the receiving device receives data using two different communication units, where the data received in the portable device corresponds with the transfer rate of communication unit as represented in Fig. 1. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse and Markman’s inventions by receiving data at a transmission speed corresponding with communication unit as taught by Takamura so communication can be carried out at a lower price and at a higher speed in the wireless LAN communication unit in comparison with the cellular phone network communication unit (¶0007).

Combination of Naruse, Markman and Takamura meets all the limitations of the claim except “a communication fee accumulation unit configured to accumulate, in advance, communication fees of the respective communication units; determine a use order of said plurality of communication units based on the communication fees accumulated in the communication fee accumulation unit; and calculating target transmission speeds based on the determined use order.” However, Ji discloses (¶0003, ¶0022, ¶0041) that the wireless access to networks is provided on a pay-per use basis, where the funds are deposited in

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advance. Ji further discloses (¶0042, ¶0043) that the deposited fund becomes a token for a connection usage allocation, which is determined by the rate of connection. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, and Takamura's inventions by previously paying for usage data as taught by Ji in order to provide service to any customer and not just the regular subscribed customer (¶0028).

Combination of Naruse, Markman, Takamura, and Ji meets all the limitations of the claim except "calculating target transmission speeds based on the determined use order." However, Uhlik discloses (¶0070, ¶0085) that the quality/speed of the signal is determined based on the price paid by the client. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, Takamura and Ji's inventions by providing speed based on the price as taught by Uhlik so the users are charged accordingly.

Regarding **claim 14**, "the content reproduction device wherein the first request signal indicates addresses for said respective communication units" Ji discloses (¶0033) that physical address of communication interface is used to submit a request. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, and Takamura's inventions by indicating addresses for communication units as taught

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by Ji in order to deliver wide range of entertainment and data services to users using correct transmission speed.

Regarding **claim 15**, “the content reproduction device wherein the first request signal is a content obtainment command indicating addresses for said respective communication units” Naruse discloses (¶¶0052 and ¶¶0053) that the mobile terminal requests the corrected transmission speed to the transmission control unit. Naruse does not explicitly teach that the request signal includes the address for communication unit. However, Ji discloses (¶¶0033) that physical address of communication interface is used to submit a request. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, and Takamura’s inventions by indicating addresses for communication units as taught by Ji in order to deliver wide range of entertainment and data services to users using correct transmission speed.

Regarding **claim 16**, “the content reproduction device further comprising: a reception state storage unit which stores, in advance, data reception speeds of said respective communication units at each position on the traveling route obtained by said traveling route obtainment unit” Naruse discloses (¶¶0097-¶¶0099) that the storage unit in mobile wireless terminal stores content data in case the data transmission speed decreases on the traveling path.

As to “wherein said communication control unit is configured to determine the target transmission speeds of said respective communication units based on free space in said buffer and the data reception speeds of said respective communication units at a position indicated by information on a planned transit position after the present position, the data reception speeds being stored in said reception state storage unit” Naruse discloses (§0050) that the receiving control unit in mobile terminal determines the transmission speed in order to control the bit rate as represented in Fig. 4. Naruse further discloses (§0037) that the receiving control unit monitors the data storage volume to be stored in the data storage unit. Naruse also discloses (§0097-§0099) that the storage unit in mobile wireless terminal stores content data in case the data transmission speed decreases on the traveling path

Combination of Naruse and Markman meets all the limitations of the claim except “a present position detection unit configured to detect a present position and a traveling route obtainment unit configured to obtain a traveling route starting from the present position detected by said present position detection unit.” However, Takamura discloses (§0069) that the portable terminal includes GPS device that detects the moving speed of the vehicle. However, the examiner takes official notice that it was well known in the art at the time of the invention to use GPS device to detect the present position and to obtain a traveling route. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to use GPS device to detect the present



position and to obtain a traveling route to Naruse, Markman, Ji and Uhlik's systems would have yielded predictable result of distributing program information data to portable terminal that is within the matching communication areas.

Regarding **claim 17**, "the content reproduction device further comprising: a reception speed measurement unit configured to measure data reception speeds of said plurality of communication units" Naruse discloses (§0060) that the unit determines reception/transmission speed received in mobile terminal as represented in Fig. 5 (element SP14).

As to "wherein said communication control unit is configured to: calculate modified target transmission speeds, each being calculated based on a difference between the target transmission speed assigned for the content reception of each of said communication units and each of the data reception speeds measured by said reception speed measurement unit and transmit a second request signal indicating the calculated target transmission speeds to the content transmission device via one of said communication units" Naruse discloses (§0048-§0055) that the transmission system transmits pilot signal to mobile terminal where mobile terminal determines transmission speed and based on the reception speed received in mobile terminal, it transmits request of corrected transmission speed to transmission system. Transmission system receives the request of corrected transmission speed and transmits data using modulation system corresponding to corrected transmission speed and mobile

terminal receives data at corrected transmission speed as represented in Fig. 4 (elements SP1-SP9).

7. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Markman, Takamura, Ji, and Uhlik as applied to claim 12 above, and further in view of Zhu.

Regarding **claim 13**, combination of Naruse, Markman, Takamura, Ji, and Uhlik meets all the limitations of the claim except “a content reproduction device wherein the pieces of segmented data each includes a counter indicating an order of the segmentation performed by said content transmission device and said content reconstruction unit is configured to reconstruct the content by extracting the pieces of segmented data accumulated in the buffer in order of values indicated by said respective counters” However, Zhu discloses (¶0021, ¶0022, ¶0041) that the stream transmitted from the data source to the device includes segment IDs, which is a sequential number, where the device uses the sequence/segment IDs stored in the buffer for reconstructing the data stream. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify Naruse, Markman, Takamura, Ji and Uhlik’s systems by including a counter value in the segment of stream data as taught by Zhu in order to efficiently reconstruct the data stream using segment IDs (¶0041).

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pinkal R. Chokshi whose telephone number is (571) 270-3317. The examiner can normally be reached on Monday-Friday 8 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pinkal R. Chokshi/  
Examiner, Art Unit 2425

/Brian T Pendleton/  
Supervisory Patent Examiner, Art Unit 2425